

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT HI1903-CS-T

Port of Kahului, Hawaii

Introduction

Coastal Mapping Program (CMP) Project HI1903-CS-T provides accurate digital shoreline data for key areas of change within the Port of Kahului, Hawaii. The Geographic Cell (GC) may be used in support of the NOAA Nautical Charting Program (NCP) as well as geographic information systems (GIS) for a variety of coastal zone management applications.

Project Design

The design of Project HI1903-CS-T was accomplished by the Requirements Branch (RB) of the Remote Sensing Division (RSD) in response to the need for expedited updates to the NOAA chart suite in key ports. Project requirements were formulated as a result of analysis conducted within the Coast and Shoreline Change Analysis Program (CSCAP), in which NOAA nautical chart products are compared to contemporary high resolution imagery in order to ascertain the need for more current shoreline data. Commercial satellite imagery was utilized for the CSCAP analysis. A Chart Evaluation File (CEF) was created once the change analysis was complete. Refer to the CSCAP memorandum of October 11, 2018 for details regarding the chart comparison process.

Field Operations

Routine CMP field operations did not apply for this project based on the origin of the project imagery, which was obtained from external sources.

Georeferencing

The georeferencing tasks were completed by a member of the Applications Branch (AB) of RSD in March 2019. One orthorectified, pan-sharpened color WorldView image with a spatial resolution of 0.5 meters was georeferenced using Esri's ArcGIS (ver. 10.5.1) desktop GIS software. Within ArcGIS, the Georeferencing tool was used to spatially adjust the WorldView image to match features in previously compiled CMP Project HI0701. The features in HI0701 were compiled to meet a horizontal accuracy of 2.5 meters at the 95% confidence level. Positional data is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was accomplished by a member of AB in March 2019. Digital feature data was compiled in shapefile format from the satellite imagery using ArcGIS (ver. 10.5.1). Feature attribution was assigned in compliance with the Coastal Cartographic Object Attribute Source Table (C-COAST), which provides the definition and attribution scheme for the full range of cartographic features pertinent to the CMP. Selected features were further modified with additional descriptive information to refine general classification.

Spatial data accuracies for HI1903-CS-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 2.5 meters at the 95% confidence level, which is taken from the accuracy of the source data used to adjust the satellite imagery. The following table provides information on imagery used to complete this project:

Sensor	Source File ID	Acquisition Date/Time	Tide Level*
WorldView-3	20180904_WV03_ORI_R1C1.jp2	2018-09-04 / 21:24:43 GMT	0.75 m

* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS tide gauge at Kahului Harbor. The elevation of the MHW tidal datum at the Kahului Harbor gauge is equal to 0.58 meters above MLLW.

Quality Control / Final Review

Final review tasks were completed in June 2019. The review process included analysis of image georeferencing and assessment of the identification and attribution of digital feature data within the GC according to image analysis and criteria defined in C-COAST. The quality control process concluded with an inspection of topological connectivity within the GC using ArcGIS (ver. 10.5.1). The entire suite of project products was evaluated for compliance to CMP requirements.

End Products and Deliverables

The following specifies the location and identification of end products generated during the completion of this project:

Remote Sensing Division Electronic Data Library

- CSCAP evaluation memorandum
- Project database
- GC11474 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

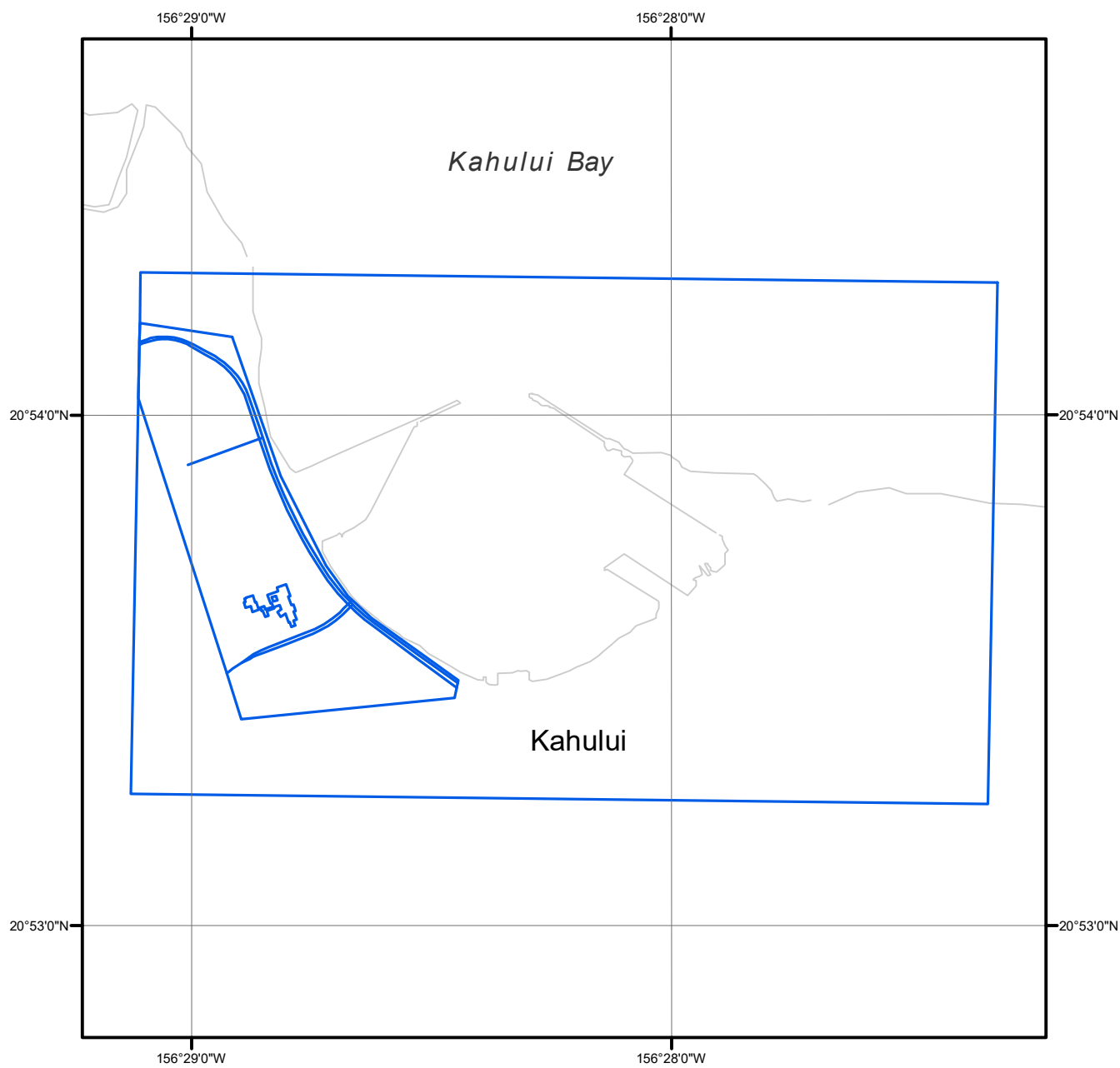
NOAA Shoreline Data Explorer

- GC11474 in shapefile format
- Metadata file for GC11474
- PCR in Adobe PDF format

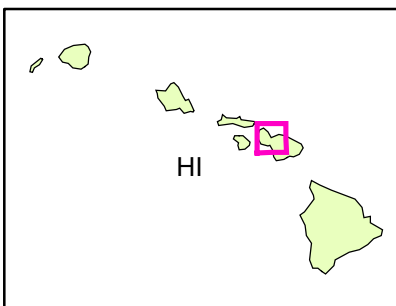
End of Report

PORT OF KAHULUI

HAWAII



Overview



HI1903-CS-T

GC11474